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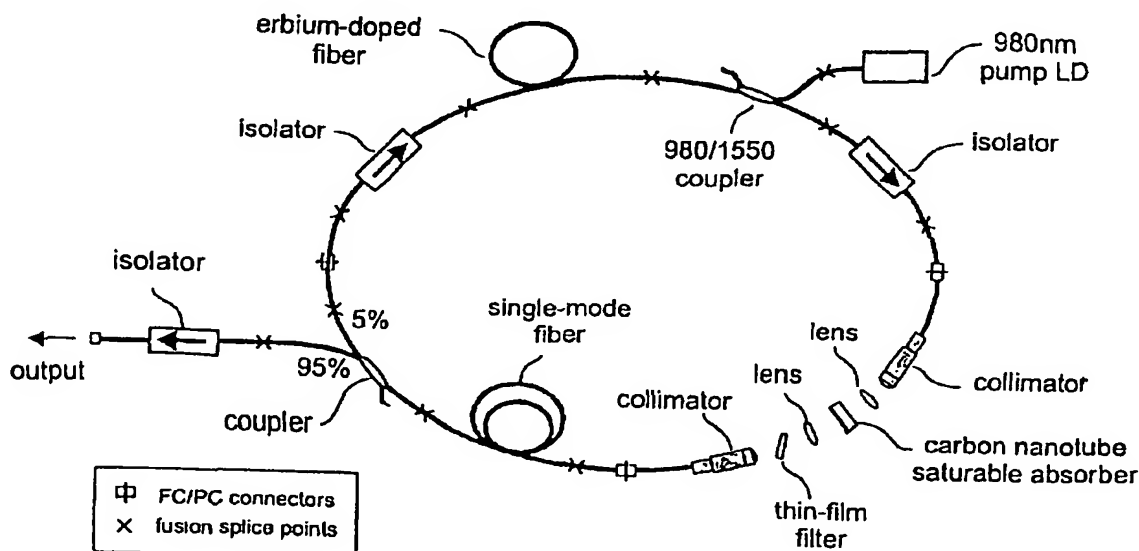
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[Continued on next page]

(54) Title: OPTICAL PULSE LASERS



(57) **Abstract:** The present invention provides pulsed lasers which employ carbon nanotubes, particularly layers of carbon nanotubes, as saturable absorbers, mode lockers or for Q-switching elements. The present invention also provides methods and materials for mode-locking and Q-switching of lasers in which carbon nanotubes are employed as non-linear optical materials and/or saturable absorbers which facilitate mode-locking and/or Q-switching. The invention further provides mode locker and Q-switching elements or devices which comprise one or more layers containing carbon nanotubes which layer or layers function for mode locking and/or Q-switching.

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## A. CLASSIFICATION OF SUBJECT MATTER

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## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
NONE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,689,519 A (FERMANN et al.) 18 November 1997 (18.11.1997), the entire document	1-47
Y	US 2002/0192142 A1 (TILLOTSON et al.) 19 December 2002 (19.12.2002), the entire document	1-47

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